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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/935,982

Filing Date: August 23, 2001

Appellant(s): EVANS ET AL.

Eric E. Grondahl
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/18/08 appealing from the Office action
mailed 9/26/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct. However, note that, the rejection of claims 30 and 40-45 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, rejection of claims 30 and 40-45 under 35 U.S.C. 103(a) as being unpatentable over Maes et al (US 5,366,651), and the rejection of claims 30 and 40-45 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 27-50 of 09/910497 (now abandoned) as set forth in the Office action mailed 9/26/07 have been withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

WO89/09806	RENY ET AL	10-1989
5,118,434	MEYER ET AL	6-1992
4,455,248	WOOD	6-1984

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 30 and 41-45 are rejected under 35 U.S.C. 102(b) as anticipated by WO 89/09806.

‘806 teaches a coolant composition containing an alkylene glycol such as propylene glycol, a corrosion inhibitor combination of an azole such as tolytriazole, a molybdate salt and phosphoric acid, and less than 10% by weight water. See Abstract. The composition contains at least 90 weight percent of an alkylene glycol or a mixture of two or more alkylene glycols and a corrosion inhibiting amount of an inhibitor. This embodiment contains no water. See page 3, lines 1-15. Suitable alkylene glycols include ethylene glycol, propylene glycol, glycerol, and mixtures thereof and ‘806 teaches that the glycols may be used together in any proportion. See page 3, line 30 to page 4, line 12.

Specifically, ‘806 teaches a coolant composition containing 30 parts propylene glycol, 70 parts ethylene glycol, less than 1 part of water, 0.25 parts azole, 0.15 parts molybdate, and 0.075 parts phosphoric acid. See page 9. Note that, on page 28, lines

15-20 of the instant specification, Applicant states that even though the compositions may be non-aqueous, small amounts of water in amounts of about 0.5% may be included in the composition; compositions containing a low amount of water are specifically taught by '806. Note that, the Examiner asserts that the composition as specifically taught by '806 would inherently have the same reduced oral toxicity as recited by the instant claims because it teaches mixtures containing ethylene glycol and propylene glycol in the same proportions as recited by the instant claims. '806 discloses the claimed invention with sufficient specificity to constitute anticipation.

Accordingly, the teachings of '806 anticipate the material limitations of the instant claims.

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 89/09806.

'806 is relied upon as set forth above. However, '806 does not teach, with sufficient specificity, a method of reducing the oral toxicity of nonaqueous fluids containing ethylene glycol by mixing with ethylene glycol a specific polyhydric alcohol such as glycerol in the specific proportions as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to reduce the oral toxicity of nonaqueous fluids containing ethylene glycol by mixing with ethylene glycol a specific polyhydric alcohol such as glycerol in the specific proportions as recited by the instant claims, with a reasonable expectation of success, because the teaching of '806 suggest reducing the oral toxicity of nonaqueous

fluids containing ethylene glycol by mixing with ethylene glycol a specific polyhydric alcohol such as glycerol in the specific proportions as recited by the instant claims.

Claims 30 and 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al (US 5,118,434).

Meyer et al teach antifreeze fluids containing 50 to 99 percent by weight of one or more glycols, 0.001 to 15 percent by weight of one or more corrosion inhibitors, 25 to 2500 arts of a polymeric additive, and optionally, up to 50 percent by weight of water. See column 1, line 50 to column 2, line 5. Suitable glycols include ethylene glycol, propylene glycol, etc. See column 2, lines 40-60.

Note that, the Examiner asserts that the broad teachings of Meyer et al I would suggest compositions having reduced toxicity because Meyer et al suggest compositions containing the same components in the same proportions as recited by the instant claims.

Meyer et al do not teach, with sufficient specificity, a method of reducing the oral toxicity of nonaqueous fluids containing ethylene glycol by mixing with ethylene glycol a specific diol such as propylene glycol in the specific proportions as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to reduce the oral toxicity of nonaqueous fluids containing ethylene glycol by mixing with ethylene glycol a specific diol such as propylene glycol in the specific proportions as recited by the instant claims, with a reasonable expectation of success, because the teaching of Meyer et al suggest reducing the oral toxicity of

nonaqueous fluids containing ethylene glycol by mixing with ethylene glycol a specific diol such as propylene glycol in the specific proportions as recited by the instant claims.

Claims 30 and 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood (US 4,455,248).

Wood teaches a specific combination of corrosion inhibitors for glycol-based antifreeze formulations which provides protection of aluminum from corrosion under high temperature service conditions without sacrificing the corrosion protection of other metals or the other properties required of suitable antifreeze formulations. Suitable glycals include ethylene glycol, propylene glycol, glycerol, etc., and mixtures thereof. See column 2, lines 47-69. The composition optionally contains water and for convenience in handling and storage, the antifreeze may be formulated as a concentrate containing little or no water. Clearly, Wood teaches compositions that may be non-aqueous. Even if the composition does contain water, Wood teaches that the composition may contain as little as 0.1 parts by weight of water for every 100 parts by weight of said alcohol which would fall within the amount of water permissible by the definition of "non-aqueous" given on page 28 of the specification.

Note that, the Examiner asserts that the broad teachings Wood would suggest compositions having reduced toxicity because Wood suggests compositions containing the same components in the same proportions as recited by the instant claims.

Wood does not teach, with sufficient specificity, a method of reducing the oral toxicity of nonaqueous fluids containing ethylene glycol by mixing with ethylene glycol a

specific diol such as propylene glycol in the specific proportions as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to reduce the oral toxicity of nonaqueous fluids containing ethylene glycol by mixing with ethylene glycol a specific diol such as propylene glycol in the specific proportions as recited by the instant claims, with a reasonable expectation of success, because the teachings of Wood suggests reducing the oral toxicity of nonaqueous fluids containing ethylene glycol by mixing with ethylene glycol a specific diol such as propylene glycol in the specific proportions as recited by the instant claims.

(10) Response to Argument

With respect to '806, Appellant states that '806 does not enable one skilled in the art to practice the methods as recited by the instant claims and all the embodiments disclosed in Remy, including the example of a mixture of ethylene glycol and propylene glycol, contain water added to the alkylene glycol and the addition of solutions of phosphoric acid. Further, Appellant states that Remy does not teach or suggest a fluid that contains no additives that require the presence of added water in the fluid as now recited by the instant claims. Also, Appellant states that '806 teaches that for mixtures containing propylene glycol and ethylene glycol, the addition of phosphoric acid is necessary for pH control, and in order for the phosphoric acid to perform its function as an acid, there must be sufficient water added for the phosphoric acid to ionize. Further, Appellant states that '806 does not even mention oral toxicity, much less teach

or suggest a solution to that problem. In response, the Examiner asserts, as stated previously, that page 3, lines 1-15 of '806 would suggest compositions containing no water and from **0 to 3 weight parts of a phosphoric acid** and thus, these compositions do not contain additives that require water in the fluid to dissolve the additive as recited by the instant claims. The reference has been read in context and the Examiner believes the composition is complete. To strengthen the Examiner's position, '806 states that the alkylene glycol is used with essentially no water, i.e., less than about 1 weight percent, on page 5, lines 25-35, which would include those compositions containing no water.

Additionally, the Examiner asserts that '806 clearly teaches compositions which contain little or no water as indicated on page 9, where compositions containing less than 1% by weight water are disclosed. Also note that, "non-aqueous" as recited by the instant claims is defined in the specification as allowing for the inclusion of some water, such as water in a concentration of about 0.5% by weight, as stated on pages 28 and 29 of the specification which overlap with "less than about 1 weight percent" of water as preferred in the compositions taught by '806 (See page 5, lines 25-35 of '806). While Appellant contends that the statement in the specification on page 28 regarding the presence of up to 0.5% water in the heat transfer fluid of the present invention refers to water present as an impurity, the Examiner maintains that the specification defines a "non-aqueous" composition as one which may contain up to 0.5% by weight water and whether that amount of water is present as an impurity or as added water is not relevant. Thus, the Examiner maintains the '806 teaches non-

aqueous compositions containing little or no water which are the same as the nonaqueous compositions recited by the instant claims.

Additionally, the Examiner maintains that the composition as specifically taught by '806 would inherently have the same reduced oral toxicity as recited by the instant claims because it teaches mixtures containing ethylene glycol and propylene glycol in the same proportions as recited by the instant claims. Note that, the discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer. Atlas Powder Co. V. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus, the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977); In re Crish, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004). See MPEP 2112.

With respect to Meyer et al or Wood, Applicant once again states that these references do not describe a method for reducing the oral toxicity of an ethylene glycol based heat transfer fluid by adding a second glycol as recited by the instant claims. Further, Applicant states that Meyer et al or Wood do not provide a description that would allow one skilled in the art to practice the methods of claims 30 and 40-45 without undue experimentation. In response, note that, the Examiner asserts, as stated previously, that Meyer et al or Wood, clearly suggest compositions having the same reduced toxicity as the recited by the instant claims because Meyer et al or Wood

suggest compositions containing the same components in the same proportions as recited by the instant claims. Additionally, although Meyer et al or Wood do not make specific mention of reduced toxicity properties, the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. See MPEP 2144; In re Linter, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972). Furthermore, with respect to the proportions of ethylene glycol and propylene glycol as recited by the instant claims, the Examiner asserts that one skilled in the art would have been motivated to formulate compositions containing ethylene glycol and propylene glycol in the specific proportions as recited by the instant claims because the teachings of '806, Meyer et al or Wood suggest compositions containing ethylene glycol and propylene glycol in the specific proportions as recited by the instant claims. Note that, each reference teaches various combinations of glycols in varying proportions.

More specifically with respect to Meyer et al, Appellant states that Meyer et al teach that the compositions require water and that Meyer is drawn to deicing fluids and not heat transfer fluids as recited by the instant claims. In response, note that, Meyer et al teach an embodiment that optionally contains up to 50 percent by weight of water which would clearly suggest compositions which do not contain water as recited by the instant claims. See column 1, lines 50-69 of Meyer et al. Furthermore, Meyer et al teach that the compositions may be used a heat transfer fluid which is the same use as recited by the instant claims. Alternatively, even if Meyer et al did not teach the use of

the compositions as heat transfer fluids, which the Examiner is clearly not conceding, “for producing an ethylene glycol based non-aqueous heat transfer fluid” is merely an intended use of the composition and is not read as a patentable limitation. Note that, if the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention and the preamble merely states, for example, the purpose or intended use for the invention, rather than any distinct definition of any of the claimed invention’s limitations, then the preamble is not considered a limitation and is of no significance to claim construction. Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999); Kropa v. Robie, 187 F.2d at 152, 88 USPQ2d at 480-81. See MPEP 2111.02.

With respect to Wood, Applicant once again states that since Wood necessarily teaches the use of sodium metasilicate, this would necessitate the addition of sufficient water for the sodium metasilicate to dissolve and remain in solution, i.e., in order for the sodium metasilicate to function. Note that, while sodium metasilicate may be insoluble in alcohol, Wood clearly suggests embodiments which contain sodium metasilicate and also may contain no water; Wood teaches that the compositions may be formulated as concentrate compositions which contain no water (i.e., optionally, contain water). See column 3, lines 1-20. Alternatively, even if the composition does contain water, which is not required, Wood teaches that the composition may contain as little as 0.1 parts by weight of water for every 100 parts by weight of said alcohol which would fall within the amount of water permissible by the definition of “non-aqueous” given on page 28 of the specification. The fact that sodium metasilicate is soluble in water and not soluble in

alcohols is not relevant to the teaching of Wood which clearly suggests concentrate compositions which contain little or no water and are the same as the non-aqueous compositions recited by the instant claims. Clearly, Wood teaches that sodium metasilicate can function in the composition without the presence of water (i.e. non-aqueous) as recited by the instant claims.

Furthermore, Appellant states that on pages 20-26 of the specification, unexpected and superior results of the claimed invention are shown with respect to toxicity. Specifically, Appellant states that combining propylene glycol with ethylene glycol will reduce the toxicity of the fluid well below the predicted toxicity for a given combination and data has been presented to show these particular results. In response, note that, Examiner maintains, as stated previously, that this data is insufficient to overcome the prior art rejections applied above. It is unclear to the Examiner exactly what unexpected results are being shown; as stated previously, it seems that one of ordinary skill in the art would reasonably expect that the toxicity of ethylene glycol would be reduced when combined with propylene glycol since propylene glycol is much less toxic than ethylene glycol. Thus, the data does not appear to show any unexpected and superior results but just merely shows what would be expected. Additionally, as stated previously, a rejection under 35 USC 102 has been made under WO 89/09806 as set forth above and secondary considerations are not sufficient to overcome rejections under 35 USC 102.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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